Notebook Series -- Notebooks by Edison
Notebook, N-14-04-30

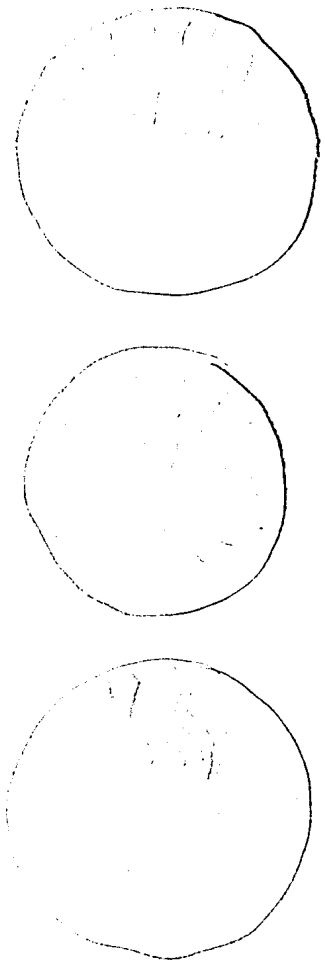
This notebook was used by Edison during the period April-July 1914. It is the first of a four-book series continued by N-14-08-07. The entries pertain primarily to the transfer process involved in disc record manufacture and to the production of record blanks. The first part of the book contains notes on the problem of wrinkles on transfer plates and possible solutions to this problem. The entries describe experimental transfers made according to different production schedules, with various varnish compounds, or with differently prepared transfer plates. Several notes indicate that many test results were invalidated because a mute was mistakenly left in the phonograph used to test records for quiet surfaces. One entry toward the beginning of the book relates to the solution used in the electroplating processes involved in disc record manufacture. Entries in the middle and end of the book describe the production of experimental blanks and transfers and experiments to improve the varnish. The last entry establishes a new "standard varnish." Employees Jonas W. Aylsworth, Charles Dally, William W. Dinwiddie, Archie D. Hoffman, Charles W. Luhr, and Sherwood T. (Sam) Moore assisted Edison with this work. The front cover is labeled "No 1 Disc." The pages are unnumbered. Approximately 135 pages have been used.

April 30 1914

Disc Expts

RO is due to Varnish –
It has taken 3 yrs to find
this out, only got it when
got blank perfect coating
homogeneous by rubber pad

The Var in drying wrinkles,
generally radially –
but ~~can't yet to say that~~
~~wrinkles are not to place~~
~~without of uniform~~
~~conformation~~ so far the
thick part of Varnish gives
most wrinkles –
+ these wrinkles give sound
rather than the varnish vs
print, the wrinkles cannot
be seen in micro after
print but can only
The wrinkles are on top

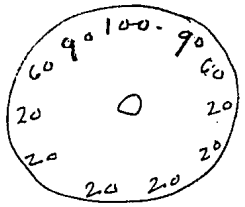


Stylus of wrinkles

Apl 30 1914

hear when playing record —

If a Record gives a Run out say call RO 100% surface — it will be like



There is going to be a very difficult problem to solve, the veneer next to plate is very much softer than outside & the strain is different, the outside is dryer as stuff goes off there always leaving some underneath,

Nearly Every transfer plate have these wrinkles on in fact not one is free of them

Apl 30 1914

By toning with ½" white Arkansas stone, the tops of the wrinkles are very compressed by toning down till they disappear, the RO gradually disappears —

These wrinkles cannot be seen in Micro —

We tested the transfer in Microline on plate —

The transfer gives the RO — Evidently wrinkles show them very much weaker than on plate

Apl 30 1944

then colleen percent They show them very much weaker —

To fix —

1 = Rub up needle & stone pumice + etc & stone them off

2 = Flow varnish so they do not occur

3 = Dry varnish so they do not occur

4 Get low viscosity varnish see if they occur

5 = Double flow plate

6 = Put something into
Change Vapor Tension

7 Dry in Vacuum

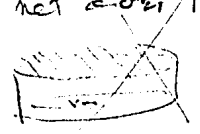
8 Bake to military paint 160
+ press smooth on polished
steel plate or glass at 120°
Take off & Bake & Run
Oven regular - Can do very
quick -

9 = Put varnish on by sprayer
so Alcohol dries as You spray on
do it by machinery +
stretch for all Vapor -

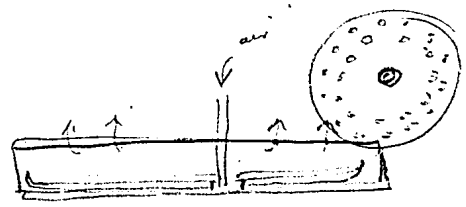
10. Try little Amyl Al ~~or~~ Acetate Amyl. to stop drying surface too fast,

11= Flow a very thin preliminary flow of thin Varnish 3 times or twice the cleaning dry & then flow sequel or Varnish -

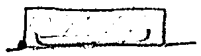
12 Let it dry with Cover on wicker & Mosquito net over Top



13. No Vac



14-



cloth all over
4 Blow air
equipment, no cobwebs -

15- Change the schedule of Running Oven, stopping draft so it takes old way leaving last vapor cabinet - so can not to dry top or front,

16 Flow 25.cc Reg V dry 1 hour then 25cc more,

17- Add to Each 285 grams - 6 Vermich, 14 grams Naphthalene

18 Ditto 28 grams Naphthalene

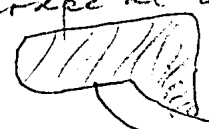
19- Trichlorophenol 28 grams -

14½

Note – Alcohol brushed over a well run dried plate, takes out wrinkles after 1 hour in air warm or [illegible] otherwise of brush [illegible] gives RO – This is easily Cured
These plates were 24 hours dry dried, plates ready for oven too soft to stand enough –

20, very fine Light ~~passes~~ that will not sink Three Varnish takes around say, 200 mesh wood pulp in Cold tray dissolved soon a few minutes after flowing –

21 – flow plates colon fuchsin form scrape at Edge –



To repeat –

22 = ~~Rub~~ Rub in Little
Assume rag around Edge –

No Resin or Pure

The Chemicals on Varnish that gave least or no RO as

365 5% Paratoluenesulfonechloramide No RO

382 = 5% Acetanilide "

473 = 3% 5% 12% Parachloroanilin "

455 Alkali Blue BR 5% "

May 1 1914

367 cc without Resin but with Para in —

367 Resin Varnish with 14 grams of dry Ferric Chloride in —

367 cc Varnish without Resin but with Para added in 106 7 grams of dry Ferric Chloride —

~~255~~

367 - 4c Var without Resin or Para put in - 8 grams of Parachloroanilin —

— Yellow Even flow + No waves

Phenolsulphonic alone in Varnish Lac Ch. ul Para on panels – gives after 6 months 230 Fahr a very light yellow transparent Varnish in apparently no marks of [illegible] Relative on [illegible] Coherence all the other (Second Exp.) Changed it at night,

Transferred 2 places OK
Prepared the transfer OK
Compared it with Reg
No difference [illegible]

May 2 1914

367 cc Reg Varnish with Pearce Paste in 14 grams of Camphor –

367 cc Reg Varnish with 28 grams Camphor –

367 cc Reg Varnish with Pearce Paste with 14 grms Ortho – Nitrophenol –

ditto 28 grms Nitrophenol (ortho)

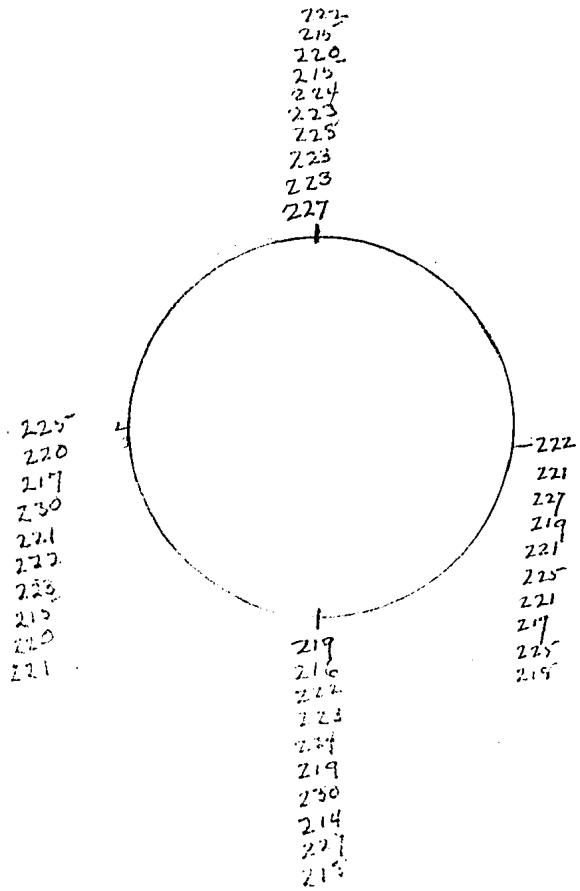
367 cc Reg Varnish with Pearce Paste 14 grms Para Dichlorobenzol –

ditto 28 grms " "

367 Reg Var with Para + Ponta
with 14 grms Nitrotoluol (para)

ditto, 28 grams "

So far only ones that are free
of Waves & have zone of Coed
are Phenacetophenone
+ the other is Paracholoroanilin
both with Chaud Para or Ponta -



May 1914

Moore reports need blanks 350 of them Tested only good 52% good — Blistering lead coil & found oil spots on [illegible] Monday yesterday had trouble from [illegible] changed Rewound — It was only oil — Hoffman feeling so oil would get on —

Collapsed 10 need blanks

227	223	223	228	223
222	221	227	219	221
219 008	216 007	222 010	223 012	224 003
225	220	217	230	221

224	215	220	215	222
225	221	219	225	218
219 006	230 015	214 004	227 012	215 004
222	223	215	220	221

Moore weighed some this morning 390 - all of them — I weighed 394 -

May 1914

Possibly wax matrices with a buff the same as the knife that cut records & held down by a spring & strong pressure on second, would smooth it very fine & then grafoil or graphite coat would give fine results —

Also with 170 Condensator press it up at 150" film with 1/4 inch glass plate on them coat & be convenient present from matrices —

Put dyes in

These tried long ago May 1914

		% Sol	Transpar	Good
361	5% Perchloro benzol	81	21	17
364	Alpha Naphthol	91	22	20
365	5% Paratoluolsulfochloride	91.6	24	22
368	5% Methylethylenediamine	83.3	24	20
370	5% Paradichloroaniline	83.3	24	20
385	Sat Chloride ammonia	100	13	13
381	Phthalic Acid	93.3	15	14
382	Acetanilide	86.6	15	13
415	Reg P Phenylenediamine	100	12	12
419	Acetate Magnesia	91.6	12	11
436	Salicylic Acid	83.3	12	10
439	5% Safranine base	91.6	12	11
440	Phosphine	90	48	43
521	Reg P Flora	100	24	24
519	Gum Dammar	94.4	18	17

419 Beautiful Yellow

370 Paradichloroaniline gives
Dull surface —
Transparent yellow
plates — no waves —

May 1914

Dope used in preliminary $CuSO_4$ bath - filtered Water Solution of Dope seems perfectly soluble & not as Collodion in suspension —

½ pint filtered then leaves only few blue specks, second filtrate some more —

Put some dope in the Reg $CuSO_4$ sol & filtered - no collodion but more specks caught on filter showing both sol & floating particles in —

Tried some of the dope dissolved in pure water shook with bone black nearly decolorized it showing that it is a very finely divided Collodion — precipitating it in part on Lead & combined with the lime of the charcoal in bone black —

May 1914

We now try to get carbon out of water decolored dope no acid by bone black treatment 2 or 3 times — & use it in cell to see if the just as coating

Agitating Dope with Quick lime no change, lime Phos lime in bone black don't affect it —

I get a solution water white, Dimmed has tested the Rol before & after bone black & the coating white after & after bone black — The coating white is neg & inert whereas the blue is OK

May 1914

& believes that the effect is
entirely due to the collodion
position & that the dopes
is not a true solution
but an extremely finely
[illegible]
Lake Cream [illegible]
even finer — Erio - A

New Blank, new loading -
Rubber 1/2" plunger in screw
& 475 grams powder
cupolas nulled off.

1st Lot. 326 - NOT BAKED -
Transfers - OK 288 Discards 48 — Now 320 —
85% — discards all cracked & [illegible]

2nd Lot. 1187 - BAKED -
Transfer 792 - Dis 395 66%

All print OK — its varnish & its
probably easier to Peel —

1st Print of RO bath [illegible]
but [illegible] surface & compact
hair —
2 more prints, both RO 1 quite strong
face edge [illegible] but OK - good surface fine —

May 1900

Daily just finished two Exp's

14 plates flooded with Varnish
Without Pora or Pentex but
with 5% Phenolsulphonic
acid —

7 transfers made 6 OK
perfect. 1 had a bad in
label, but w OK Carmine
only one yellow spot on
whole 14 plates & that due
to blank as it was on both
sides —

This fine Varnish — are printing
them to see report / crackers
using cracked blank mould —

1 plate blistered in oven
flows very much as seen by
edges — 6 transfers

May 1914

Also Dolly flowed 14 plates –

Varnish – 4% Penta,

no Paraphenyl but 6% Paracholoromelin –

OK 2

3 Birds on one side

1 " " both sides –

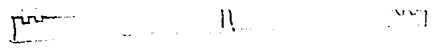
1 " " 1 pull out,

This is rotten,

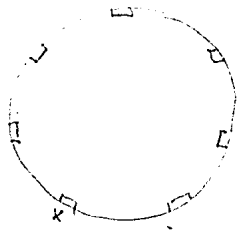
Because Paracholo Condenses & robs the 6/4

May 13 1915

We put 2 grooves in brass plate 3/16 thick



flooded with [illegible] and dried 48 hours



put x limiting pieces on edge

put in press & raised to 200 lbs & gradually raised heat till [illegible] came out nearly perfect [illegible] season a week to prevent cooking — finally used 85 lbs [illegible]

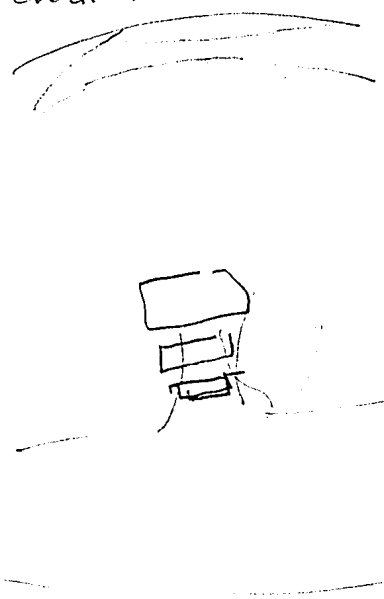
Very promising —

With no Para or Penta, - RO not so bad as Reg'l
Reg Vac Buffed & not buffed -
no difference in RO but unbuffed
has slightly better gen'l surface

Prints -

OK 1 -

Bad Creek 1



May 15 1914

Nutty plates 6 baked in
Chem Kote -

No waves on Heat Transfer

- Reg Vacuum without press or
Penta -

OK 4 - all OK that was transfer
& good till no flows -
Run Thru 15 plates, 7 not cured had
small bubbles - Nutty
Deep heat too high or quick &
things cooled get not OK -

Reg Vac with Heat Penta -
Press on brick covered with mosquito net, 1½ hours
5 Transfers
3 OK - 1 Cooked 1 burned
Edge - none were filled, appears
that either Para or Penta are with
marks, Cooked plates, & without
them no Cooking - see above -

X
Surface good –
2 surfaces have no RO
2 " not very much
Much better than Req

RO. worse than X

Daily X
5% 33% Sol Phenolsulphonate
+ 2% Paraphenylenediamine
Plates OK
Transfers all OK 7

Daily
10% Sol 33% of Phenol
Sulphonate. Run same time
as X above plates full of
bubbles –
OK 1
Comet 1 6 –
Burnt 3
Heater cracked at Edge 1
Schedule too rapid or
Rubber point too high –

2 Prints

2 faces very faint RO
2 " Light RO Oils –
Pretty good Var
general surface smoother
than Reg Var –

2 - Prints RO all 4 faces but
not Bad

There is scarcely a doubt
but the wrinkles in Varnish
causes the Run Oils,

Daly
Varnish No Pentar or Pcrea
5% Indigosulphonic acid
7 transfd all OK.

Daly
10% Indigosulphonic
6 printed all Discards
Birds — Thus shows
that too much percents
hardening — or The 10% Ind
all dedent down was left
Cloth that made bubbles
Rubbed 6/4

9

Beta Naphtol

8%

All 5%

5%

From old record book

Resorcinol 5% No RO – 2½ & 3.5% same +
Benznaphtol " 4 OK 1 v slight RO
Para toluolsulfonamide 5% 4 RO 1 vvv slight RO
Paramidophenol 5% 1 Tested 1 OK
Metaphenylenediamine 5% 2 Tested no RO
Acetanilid 5% 5 OK No RO 5%
12% acetanilid too much –

Bromo ... 5% 4 No RO 1 vv slight RO
Acid ... 4 BNS Cone ... 4 No RO 1 vvv slight
Cutis ...

Auramine 5 – 4 No RO 1 ...
Acid Green GCX ... 5 OK No RO
Alkali Blue BR ... 5 OK No RO "

561 – 3 Para 5 Beta 12 = 11 OK No RO 1 ...

Schedule run on Dally's Cylinder – to get rid of bends & bubbles, by getting air out early & just go to rubbery state & hold that long time

Started at 120 Fahr
One hour to reach 140 Fahr
Held 2 hours at 140 "
Then took one hours to reach 225
Held it at 225 for one hour

Took Plane right out in air at 225
No cracking –

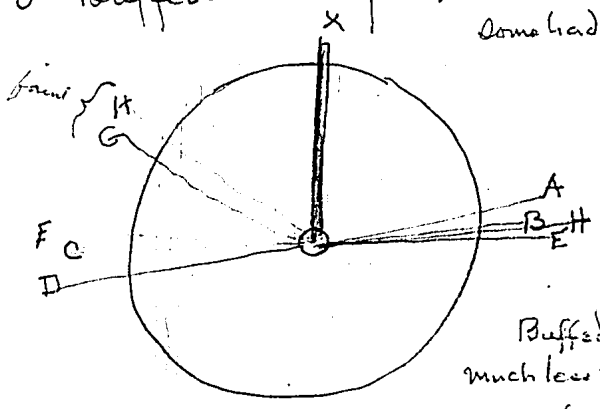
Plates showed no bends, blisters or bubbles except 1 to 3 each plate from dust good looking plates –

Transfers 5 = all OK except one due to very bad blank

Thus schedule seems good

~~[illegible]~~

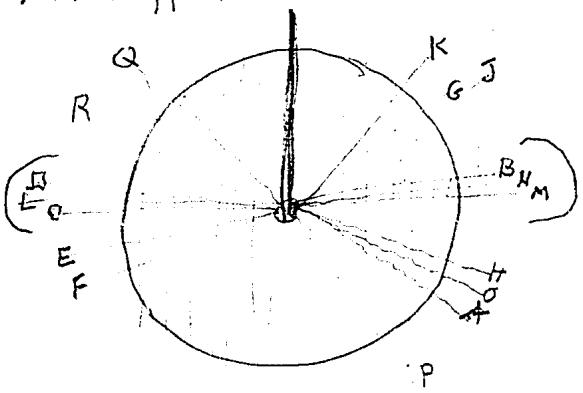
8 Buffed Transfers: Inked mould
Dome had no Runouts



Buffed very much less RO a surface than not Buffed

X represents grain of plate

Not Buffed



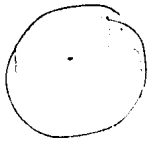
Evidently dust also makes Runouts as well as grain

Paraform Varnish in place 6/4
Run in Oven Reg—
They are soft Cook Stick finger
nail in— Evidently wants
higher & longer heat for Paraform
Surfaces Even but not 1/8 high
surface —
Will Transfer Buffer Print on
tracked moved —

All Paraform plates stuck
on Transfer— Not heated
Enough— to harden —
Paraform is a high temp
long heating Hardener

Dally Selected 22 plates

that didn't show straight grain of metal.



had none of this -

Used reg Varnish Reg Dally schedule Backer

Transferred Practical ---

All OK - Very fine velvet surfaces - of the 21 surfaces (1 surface had reg plate)

14 had absolutely no Run Out that could be detected by horn on a cracked blank

One had V RO very soft.

3 " VV- "

3 " VVVVV hardly hear.

This seems to prove that there is unequal shrinkage due to lines on metal - One way shrinks Easy opposite no shrinkage -

We are now getting rid of the Mill Roll

Marks will finish as smooth as circular and any polishing marks will be in multiples of 150 breaks of the record

The surfaces on these records ~~[illegible]~~ is perfectly smooth and hard to treat

Rosolic acid. Has the regular run outs + all ok but RO — shows run outs not in Varnish as Exponent last year gave no RO — Guess its stivaled plates —

Dally Run on his req & schedule which is ok for req Varnish

Beta Naphtal 5% of cut of Resin in Req Var without Penta or Para —

5 = Birds + Cooked — squirtled out at Edge — Wants different + higher hardening Schedule or more 6/4 —

Benzenaphtal. 5% of cut of Resin

2 ok 4 Cooked Birds — Schedule must be higher + longer heat or more 6/4 squirtle out at Edges but not as bad as Beta Naphtal —

Rosolic acid — 5% of the Resin 5 ~~Phenol~~ transfer All ok - Dally Schedule — Look good - dark - Will print —

surface astringent not as good as — Metaphenylenediamine — not better than acetanilide

5% Paramidophenol (Cont)
Red Transparent, no bubbles — good — Very black

Transfer	Blister Cracked	side Crack towards hole
	OK	Prints VVV–VV
"	OK	VVVV no
"	OK	no no
		VV no

All had cracks on Edge — neg — one side OK other Cracked + Ck'd Blister Ck to Hole

acetanilide — Transfers — Prints

OK III — VVVVV – VVV full cracken
VVV – VVV
Blistered big 1 side — no V
Burds one side — no cuts

Q. surface not very sticky

5% acetanilide —
Very light yellow — Curious little blisters 1/32 to 1/4" round — many have a hole in center, some none, this looks as if impurities in spread in all Varnishes produced the bubbles, Metaphenylenediamine doesn't seem have any tendency to blister, it is phenomenon with this sample, all plates were varnished to be in varnish as Evidently gas was formed after Rubbing or high heat or from an Solid particle,
All had Cracks on Edge Except 2 surfaces

These results show that my old Experts with various sensitizers were NG —
Must first use a definite sensitizer see how they act + then alter time & heat for Varny the 6/4 till that particular sensitizer gives good results —

Metaphenylenediamine 5%
plates look good — dark —
Transfer OK III = Print,

Prints
VVVVV — no
VVV — no
no no
no no

only 1 had cracks on Edge — actual —
Very fine surfaces on all sticky cuts a little on smaller part

This Varnish appears perfectly satisfactory — + OK to change Enough = no sensitizer — works 100% Transfer + Print, might count a little more hardening to top coating on small cts cheaper than Para — 6.75 mk K Meta 6 mk K

Daily schedule

Awramine, 5% all volumetric

Plates

OK ||||| ||||| – practically no bubbles or radial waves –

Transfers

OK	Bad blank	Making Bad blanks today
OK	Little Cooked	
NG	Cooked bad	
OK		
OK	Cooked	

Note ~~blanks~~ (Cooked) then note

Brown 4 A. no cooked only

1 big bubble. Same blanks.

2 points

vvv–vv no. no surface pretty good no cut

start bad, may be mould –

No Cracks on Edge

Daily Schedule

Acid Violet 4 B N.S — all soluble
Black

Plates OK HH IIII

Whole came off plate - plate highly polished - 1

Strange -

Some radial waves & some bubbles Very Black

Transfers

OK -
ng — bad cracked Bad blanks today
OK
OK
OK

2 printed vvv — vv
-no vvv - pretty fair
surface no cut. start bad, may be
mould wiped

2 printed 1 Cracked on Edge

Daily Schedule

Bromo 4 A, Red

Radial waves

Plates OK ||||| ||||

Think radial waves rather prominent -
Scarcely any bubbles -

Transfer 2 prints No Cracks on Edges

OK Print 2

OK vv - no ro

OK vv no Ro

OK Surface good

NG Big spot blister.

Bad blisters
Going -

All stands very good - perhaps moments spot too

Its strange that 3 Para 5 parts are bonds + rotten —
while this has no bonds + OK

Apparently a Dow schedule must be found for each Varnish
there 2 made in Dally's & one schedule & transferred same time

Also in Reg Varnish if there was a variation in proportions it would give the schedule

or if Resin has excess of X phthal it will bind up on reg schedule, if not enough it will crack on drying

Dally schedule

5% Paratoluolsulfochloride —

Plates —
all OK. IIII IIII no bubbles
flows even — No radial waves
Transparent red light. Very few bubbles — look good —

Transfers
OK IIII
Cook ½ area of Cutter, Bind blank

Can't have anything on the transfer
Dally says varnish must
Thumbing rolling off looking

perhaps Varnish should be made up + no 6/4 used, then take sample put in 6/4 + run 100 transfer if OK proceed if bonds at 6/4 — + try again —

Dallypalmeli

3 Para 5 Petala —

All OK some radial wrinkles
but as Var is dark they are not so
Conspicuous than of transparent
only few Ecto Elm —
Surface well cov

Transfers —

Buds both sides ||||
" one side |

Very Bad —

These 2 tests surface noise has covered on the wax side.

These are plates that I have ground out the rough marks on grain of the metal & then polished so marks would be circular —

371 Dally

Plates made with spiral grooves in plates made with Emery paper Reg Vernal No 371 Dally —

OK 1111 — transfer OK 11 one spot 30 inches in at center spot

Cant hear any surface noise on 4 sides Dally seems very quiet — Think my hearing is off today another not smooth

370 —

Plates made with spiral grooves the 1111 marks being ground out with white Oil stone — Reg Van Dally 370

OK 1111 Transfer OK 11 Left but not marked

Cant hear any surface or PO on any of the 4 surfaces — Dally seems very decent — Think my hearing is off today

Dally 368 -

Dyeing Feminine CP

Very light yellow - full letter [illegible]

OK HH HH

Transfer OK 1

Left OK 1111 -

[illegible]

[illegible]

Replacement [illegible] -

Dolly 367 -

5/6 Paraphenylenediamine -

OK 10 - all ok - scarcely any bubbles
fine vacuole - has covered on
surface ~~and~~

Transfer - OK ~~IIII~~

Dolly wings harden [illegible] -

These are only seen plated & allegated
fixed & paleighed & [illegible] to [illegible]
[illegible] right [illegible]
All 4 [illegible] Can't know any
[illegible] - Dolly wings [illegible]
[illegible]

2% Paraphenylenediamine

Dolley 372

Plates - OK III III has no cross
fine looking plates - no bad blk
etc -

Transfers - OK II
Birds III

Bad blanks -

2 Records Tracked -
Cant hear any RD a scarcely
hear any accompanied with red light
Cant work at my hearing on off
or not - June 4 1914

3% Paraphenylene diamine
DACC 3/3 -

OK ||||| ||||| = small waves — big swell
fine looking platen no bubbles

Transferred — OK ||
Very small sand tube |
Bubble sucks ||

Note 29 3% Phenol tested —
5% none also Ethyl none —

2 Records Cannot hear any RO
& can just hear sensform

Madeira Dallas

Dolly 369 — scaled repeated + paleated plates

3½% Ammonium Chloride —

Plates OK — ||||| ||||| — very

reading, but looks as if good

Recording records have [illegible]

like Police walking [illegible] —

Transfer [illegible]

Transfers — OK ||||

This is strange when 372 [illegible]

2 Records — 1 shade RD —

1 Considerable RR

surfaces can hear, and not so good as

2% or 3% Ammonium Chloride

which has general acceptance —

so good that it is well [illegible]

to hear it —

All Exples on surface

around this time vitiated by

the Mute being in without

our knowing it

375

Dilly 4½% Molly Violet 3 BP –
Very dark

Big cubes HHII
Fed cubes IIII
[illegible]

Dolly 376 — 5½ Inchrome RT

Photos,

Handle big bubbles ||

Big bubbles ||||

Few bubbles ||||

Dally 374 Victoria Blue B 4/5
Turbine Blue

Cooked one edge big bubbles/5" Sea 1
Big bubbles many one side LHT IIII

Van 301a

XXI — 60 Transferred
26 OK
24 Discarded

10 Cooked Cones
9 Left Ckd
2 " not ckd
2 pull out
1 Cracked Vac

43%

June 2nd 1914

Edison XXI
24 = Not Baked

Experimental on Velocities for Powder & Funk —
2 min contact with steam on 1000
Then increase pressure to 1000 lbs & hold
for 7 min & cut off & cool
Keep up the 1000 lbs —

Transfers OK. IIII

Bleached Cones IIII IIII II

Cooked Cones OK I

Bleached Cones III
Burned Cones I
Burned I

43%

XX2 97 Transfd —

OK 85 — 12 Discarded

Cooked Centers 1
Left Ckd 4
Thin margin black 3
Pull out 1

87%

See next page for XX2

Edwon XX2

24 — Not tucked

2 min Contact at 100 lbs steam 5 minutes at 1000 lbs steam on Then Cut of steam the Cool holding at 1000 lbs

OK ||||| ||||| ||||

Blister 19 ||||| ||||

58.3

1-Cup of XX3. 24- Not baked

OK 𝍸 𝍸 𝍸 𝍸 I

NG Burned 1
Comed Burned 1
(cracked) Crusted 1

91.6%

XX2 61 Transfd
39 OK
22 discarded

Cooked Centers 1
Left Ckd 2
Left Ckd on edge 16
Pull out 1
Cxd Waves 2

63%

XX3 – 50 Transfd
47 OK

Left Ckd 2
Thin Marginal 1

Van 301 a

94%

Eclairs XX3 24- Not baked

5 minutes Contact, at 100 lbs steam, 3 minutes at 1000 lbs – Cool Keeping fore [illegible]

OK 𝍸 𝍸 𝍸 IIII

Red Comed III

NG Pull out 1
Burned 1

91.6%

XX3 – Prints,

OK 𝍸 𝍸 IIII IIII

Doubtful III

Not filled, Ckd [illegible] 1

82.6 –

XX3 – 50 Transfd
45 OK
5 Discarded

Left Ckd 4
Pull out 1

90%

Edison XX 4
Not baked -

3 Minutes Contact 100 lbs
steam, 5 minutes with 100 lbs
steam on at 800 lbs pressure
Cut of steam cool down
Keep the 800 lbs pressure on

We are to make the 4 XX
100 Fresh 50 baked 50
unbaked + Transfer [illegible]

OR ~~IIII~~ IIII IIII IIII III
Cooked Crates Nq II
Blueberries Nq II
Nq Blueberries I

78.25

Edison XX 5

6 minutes contact at 100 lbs
steam pressure then 3 min
at 1000 lbs with steam pressure
at 100 lbs then cool & keep
the 1000 pressure on

Dup Dolly 371 - made with Emory paper
Transfers OR HHII —

Mill ground plates
Transfers - OR HHII —

Dup req Van req process 370 Dolly
Transfers - OR HHII
B Chalen Crocked 1

Dalley 382 Green M 2½%

Plates
OK 1

Lots bubbles at edge one place runners pouring to it = 1
Bad, peculiar drawn = 1
NG, soft there were not baked enough
See queer higher & slip faste [illegible]
Check longer next run —

Dalley 381 — Acid Green GCX 2½%

plates OK ||||| ||||

Some bubbles, Can't stick nail in —
baked OK — / Waves [illegible]

Dalley 380 — Acid Green BB 2½%

Bug Blister ||| 50% — [illegible]
OK ||||| ||

June 6 1914

Dolly selected 10 Varnish plates — The Varnish having been patched — Transferred them —

All were OK —

831 — 6-1-14

Hoffman make enough powder for 1000 blanks each
1st lot to be sprayed as now —
2nd lot to be #830 mixed old way, grind a Bag each lot, after 1½ hours from the time of bagging
830 make blanks & work

Blanks old & old batch

Oven 7 —

Transferred 108
OK 54
Discards 54

50%

Cooked Cracks	28
Left, ckd	16
" " 1 Edge	7
Ckd Var	2
" Warped	1

832 310 Transferred, old schedule

Ok 200
Dirtied 110

Cracked Center 9
Left Cracked 45
Left Cracked on Edge 29
Left notch 5
Thin Margin Edge 14
Dull cut 5
Cracked wrong 3

64%

Run them a lot of powder as you now make it Enough for 2000 blanks Bag Two lots, The 3rd lot run them make

#832 Hoffman
1000 blanks right away

Run the 2nd lot in 48 hours

#833 Hoffman

& The 3rd lot after 72 hours

#834 Hoffman

~~Another~~

#835 Haffner

Make another lot of blanks ground account to them 180 week keep 24 hours + make blanks

Old blank schedule 309 Van

Transfer	108	
C-R	62	over 6
Dis cards	46	
Cooked Chicken	29	57%
Left Ckd	5	
Left Ckd & Ope	10	
Ckd Van	2	

#837 Hoffman

3½ to 1 Pacoder & Cooler
Pacoder mixed with cooler
Moulded room was grooved

Old schedule on blank

Transfd	108	
OK	63	Over 7
Discard	45	Lot 309 Van

Cooled Cooler	16
Left Ckd	17
Left Ckd edge	7
Then Marquin redoppitts	1
Pull out	1
Ckd Waves	1
Ckd Van	1
Mechanical defect	1

57%

Here is some of the remarkable
Lake Eric of Mary Daily Wadsome
special pictures taken
got some photos of Lord Fisher
Alone and the sailing ~~with~~ marks
& ancillary vessels Hence
put required technical

Not good – The phone had a
Mite on it + I didn't notice
it, it got moved + pressured
these fine results when
removed the tracked
records had pitting
surface + irregular
RO

Remarkable –

Last week Dally had
some plates polished +
tyed up. These had deep
varnish put on the
surfaces were very good
but some run outs – the
regular plates + Vari had
fair surface + all had
strong run outs
about the 30th Dally
had luck make some
plates with the straight
Mike roll marks ground
out + polished circularly
they Vari cured These
plates had a remarkably
smooth surface Edison
Could scarcely hear + no
run outs. This Edison
attributed to his hearing
gone bad. Dally & Carmen
the gent surface was
faint, WE duplicated

MG

Mute was on

Then we had very again & still no run out + general surface Edwin could not exactly hear

But Daddy also pounded from + very bad streaked places,

+ surprising to say the General surface of this was fast not quite as fast as the standard plates + although there was run outs they were also very fast 3 or 4 times faster than the same [illegible]

Now the only change we have made is that on the 28 we changed schedule of ovens + made harder transfers + on the 2nd of June we changed

Doubtful on account of the Mute

Schedule on the blanks XX3 —

Apparently the change in oven schedule has improved surface results although the plates will still crack which should have been loud & have RO are put on blanks which both oven & blanks have schedules

NG

Mute was on

Changes, Better surface than these are impossible
They are perfect, even with all flaws they are Comedy perfect,
What caused it,
Open or two Sake Sake
going to or our blank
the Rotten Conference
on XX3
or both = Run it
down

June 4th old blank schedule

64% —	310 Transfer	Oven 2
71%	227 "	Oven mixed
89%	146	Oven No 4
29%	12	" 4
53%	108	" 1

Loss due mostly Lifts + Lifts ckd 1 edge

Total 54.6

Old Reg Schedule

108	50%
108	57 %
108	57 %
1166	32 %
~~[illegible]~~	~~[illegible]~~
615	76
560	60

XX3 Schedule working good

1152	78%
1214	85 %
2314	81
229	70
152	63
252	81
~~[illegible]~~	~~[illegible]~~
3412	77
194	84
252	85
199	87
1092	80
772	83
385	84
3544	89

mixed from ovens

Average 80.5

15286 Transfer

12510 good

without commercials

Not Baked	194	84%	oven 1
Baked	199	87%	

Dolly 381 –
Acid Green GCX 2½%
Transfer
OK IIII but one some amount.
old req & schedule blank

Dolly 380
Acid Green BB 2½%
old Req & schedule blank 37 samples –
Transfer
OK IIII – one outransfer plate
was spoiled –

Dolley 382
GREEN M 2 1/2 %
old Reg Rocke Lube blank
transfer
OK HM -

June 9 1914

Without Mute which has thrown off - The rumours are just as bad on stamped plates where rolling mill straight streaks are ground out by tank oil & then saw on plate with marks in —

842 is the
Number of the new
Rubber packed
Blank.

XX3 press schedule
5 min Contact at 100 lbs steam
3 min 1000 lbs at 100 lbs "
Shut off steam & Cool —

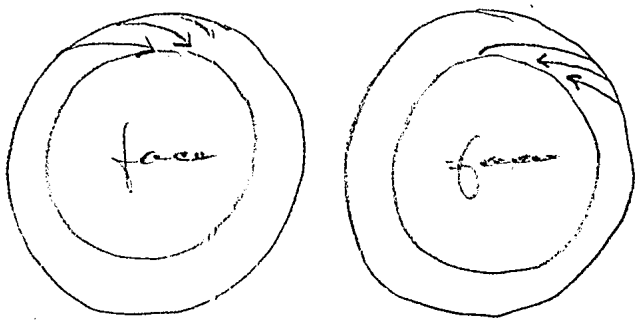
Paraphenylenediamin in solution of H_2O is precipitated white by 40% formaldehyde

Also Meta Toluidin — precipitate reduced —

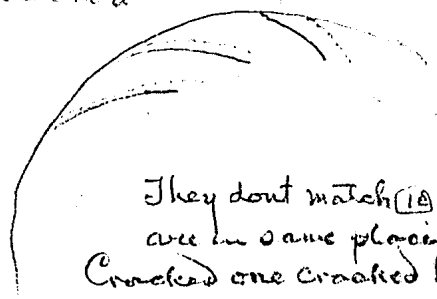
Think possibly can use Paraphenylenediamin in place of ammonia in the ~~[illegible]~~ Hexamethylenetetramin allow also formation of ammonia yields form Bleiben on heating —

2 Cracked both sides
1 " one side

Phenomenon



Opposite each other + also direction of cracks are opposite looking Pern, same direction



They dont match (10 lines but) are in same place. The thing that Cracked one cracked the other

XX3 schedule

Took 12 new blanks transferred & printed them — got 100%
[illegible] Conversion [illegible] 75%
Threw [illegible] Cracked [illegible] Theirs of Contact

24 conformers 16 no runout
4 VV faint
4 VVV faint —

The conformers are at least twice as good as an regular old schedule blank

June 10 1914

[illegible]

The RO is entirely due to blank Veneer must watch —

Ab to Tunes 48 tunes mostly 1 or 2 discs but

Wedding Winds exactly had 7
Vari d'Art 11
Dreaming 10

4 others had 4 each —
2 " 5 "
12 " 3 "
10 " 2 "
16 " 1 "

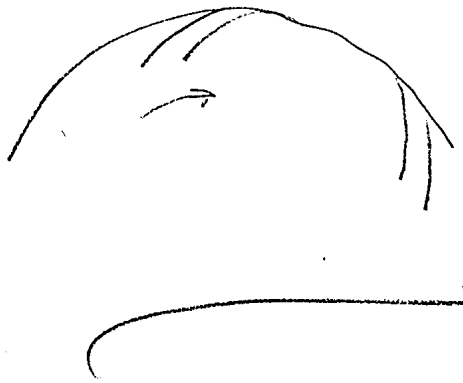
Inspection of Cracked Discards — 128 Discs inspected

Cracked one side + no good	26
Crack both sides but passed	5
Crack both " not passed	5
Cracked one side but passed	10
Edge Music crack passed	8
Edge " " not passed	30
Not cracked or poor print passed	3
" " " not passed	9
Poor Prints NG	25
" " + Cracked	7
	128

Edge music cracks	38
Other Cracks	53
Poor Prints	25
No Cracks other defects	12

I took 74 cracked records from sorting board just as they came from pressing presses There was 43 times —

By seeing how many of each times advertising Mould numbers it is evident that moulds havent much to do with cracks, for instance Kathleen Harrison had highest number 5 - but only 2 mould numbers were alike. Guess can drop this line of research although its queer that with 160 moulds on board, there should be so many of same times,



big crack ball runs out or in according to direction of cracks —

5th Lot.

New blank, Rub pkd XX3 Dolo clubs

100 Blanks made –
100 Transfers made
3 discards – one lift cracked, 1 pull out, 1 Corrected Varnish
97% good

Printing
97 printed –

one cracked – 2 poor prints, 16 knocks

as corrd 77% but knocks not due the process + can be regenerated

97% –

100 blanks taken 94 got to final tester

842 is new blank—

8th Lot

Made 100 – Transfers
84 OK
8 Lifts Cracked
6 Cracked Varnish
2 Mechanical Defects

83 Printed.
71 OK
11 Rejected for Mechanical defects & Kinks
1 Cracked

842 Blank

9th Lot

100 Transfer made
92 OK
1 cracked Cover
3 Left, Cracked
2 pullout
1 Cracked Cover
1 " Varnish

Prints made 92 -

17 Repeated
75 good -
1 Cracked
2 poor print.
12 Cracked & Rocks -

842
Lot 7

100 Transfers made —
93 OK —
3 Lifts —
4 Cracked Transfers

Printed 93
OK 72 —

2 Cracked
4 poor prints
3 Lokie off
12 Cracked & Cracks —

842 Blank
Lot 6 —

100 Transfers made
97 OK
3 descard

1 Cracked Cover
2 Lift, Cked

Prints made 97
5 Rejected

92 OK.
5 Cracked

842 Blanks #1 Lot

Printed	Cracked	P.P.
72	2	0

Dolly received 74 Blanks out of this Lot,

This shows as far as 842 Blank is concerned on 5 different Lots of 100 Each
We get, an average of all the 5 Lots of

Transfers 92.6 % OK

Prints made 96.3

Only white spots Cracks & poor prints Counted against blanks
Crackers & Knocks Counted for blank —

Rejecting Everything Transfer & print — 76.4 %

Went to shipping Dept,

4 Loaders 4 blanks min

22 hours 1320 minutes

5280 blanks

per unit —

4 units

21120 blanks

per day

June 15 1914

Schedule Times

Operations in need loading & firing

After loading — Pass to press — press — pull coil from press take to firing

Weapon — 26 seconds

2nd 20 "

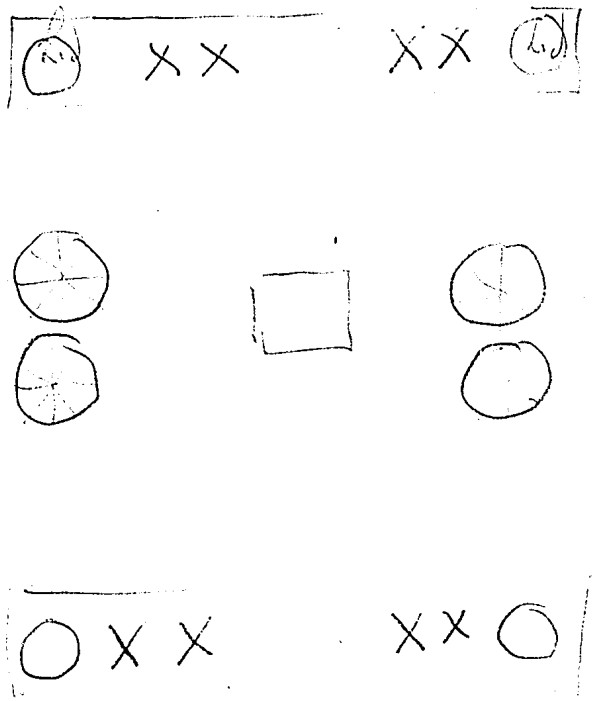
3 27 "

Pressing — Starting in press — pressing — pulling out — carry from press to table — carry to firing 15 seconds

1 man on 4 loaders loads 1 per minute —

Shaver 1 man shaves under water in 1 minute 20 seconds with the 2 men shaves in 1st 2 initial time or 1 90 by 40 seconds —

Lid put on in 1/2 min



Procedure near 4th hour in Vac Engrave Hot water used for heating — started 7 O'Clock

7.30.	80	Fahr
7.45	90	
8	100	
8.15	105	
8.30	108	
9 —	110	
9.15	112	Water Heat
9.45	120	
10	125	probably
10.15	128	
10.30	130	NG
10.45	133	
11	140	
11.15	143	
11.35	145	

Test for heat blanker procedure in Vac at higher temp —

Var 343
Blank 846
Oven 394
Baked hours 9 3/4

Transferred	727	blanks
OK	496	
Discarded	231 —	68 % good

Cooked Centers	100
Lifts	117
black thin Meringue	4
Puff out	1
Cracked waves	3
" Varnish	8

Evidently this is NG, probably water higher heat warming steam —

2900 842 new Rubber blank transferred in lots of 100 over General Charge with many different Varnished —

There was need from transfer room — 82.75 % of all — Showing % good transfers to be that amount (16) of 2900 blanks

After printing all — there was 75.72 of the whole 2900 — Healed appeared — but Cracked & rough surfaces are Counted OK — Cracked & Poor pts discarded

In other words 2195 out of 2900 OVER OK for Stick (when Cracked) record are represented —

Stop Lifts & Cooked Centers and — transfers will be 96% or better —

Out of 2900 842 blank transfers there was

Cooked Centers	107	3.6%
Lifts	385	13.2%
Varnish Cracked	82	2.8%

Total 19.6%

Discards —

Cooked centers are due to
1st Varnish Too thin in Center
2 also blanks too thin in Center

81st lot. 9 3/4 hour oven Oven No 8

350 Var 842 blank - pressed 600 lbs
5 min Contact 3 min 600 lbs cool

Transfer 100% good ! !
Print —
6 Knocks
2 Cracked
1 Rough Surface } 9 - for reprint

3 Cracked —

97% including
reprint — 85% Discarding reprint

85% To shipping

600 lbs pressure gives better general surface than 1000 lbs & cannot probably be used

350 Var 9 3/4 hours Oven 8
842 blank —
B. Crack
5 min Contact — 3 min 800 lbs
Cool —

Transfer 89% OK
1 Cracked Center
10 Birds

Prints, 86 printed 3 used on tracked mould

10 Poor prints
1 Cracked

17 for reprint —

67.4% of those printed OK

If reprints included 83.6%
of those printed T. —
or 75 out of 100 To ship To stock
if reprints OK.

842 blank

Picked, Even Varn plates 351 Varn 9 3/4 oven

Transfer 75% OK
8 Cooked Center
3 Lifts
14 Cracked Varnish
Prints – 75 received –
9 poor prints
2 Cracked 64 good

Even plates deep 842 blank
351 Varn 9 3/4 Varn

Transfers 83% good
8 Cooked Center
3 Lifts
1 Rollout
5 Cracked Varn
Prints – 83 printed 60 good
16 poor prints
5 Cracked –

These results tend to show 842 blanks are low in the center or full of gas.

Uneven plates (Varnish)
842 blank
351 Varn 9 3/4 oven

Transfers 68%
3 Cooked Center
14 Lifts
1 Rollout
13 Cracked Varn –

Prints – 58 good
4 Cracked
3 poor prints.

Uneven Varnish plates
351 Varn 842 – blank 9 3/4 oven

99 – Transfers 66 good
11 Cooked Center
6 Lifts
16 Cracked Varnish –

Prints 39 good
18 poor prints

100 in lot

Continuation of the 2900 842 100 Each.

T 351 Van 4 oven 77 OK 11 cooked 9 lifts 1 ckd Van
P 77 prints 64 OK 8 ckd 5 poor P

T = 351 V 7 oven 93/4 79 OK 9 cooked 9 ckd Van 3 lifts
P 70 OK — 1 ckd 5 Poor Prints

T 350 Van 1 oven 93/4 — 82 good 5 cooked 6 lifts 2 pull out 4 ckd Van
Prints 73 OK 9 poor prints —

Trans 351 Van 6 oven 9 3/4 75 good 12 ckd Van 11 Cooked C 2 lifts
P 68 OK . 2 ckd 5 poor pts.

T 352a Van 2-3 oven 100-93 good — 7 cooked 8 lifts 1 pull 1 bind
P 79 good 4 ckd 2 poor pts

T. 352A — oven 2 — 84 good — 7 cooked 2 lifts 1 pull 1 bind 1 ckd Van.
P 83 good 4 poor prints —

Jan 23 1914

I tested these tracked records
blanks made with 1000 lbs
800 lbs + 600 lbs for surface

1000 has good surface
800 has fair "
600 is rather rough —

There is a decided difference
between 1000 + 600 in
the surface — It looks as
if we must use 1000 lbs —

24th June 1914

Powder dried with alcohol
354 Var 852 blank. made off today
XX3 1000 LGi —

Uneven Varnish Plates.

7 oven 9 3/4 —

145 Transferred 78% OK
14 Cooked Coulei
7 Lifts
9 Cracked Varnish

Duplicate. same Var Ele.

315 Transfd 83% good
31 Cooked Coulers
9 Lifts
12 Cracked Varnish —

Powder Steam heated in Vac -
355 Van 842 blank - Rub pkg Nos oven 9 1/4

100 Transfer 96 good
1 Cooked Canon
1 Left
1 Rub
1 Ckd Van

Req blank 443 - old pkg → Contrary of Steam 4
355 Van oven mixed 9 3/4 -

3653 Transfer - 74% good
304 Cooked Canon
491 Lefts
110 Cracked Vans

Powder Steam heat 2007
842 - 842 -
354 Van oven 7 9 3/4

108 Transfd 89 good
5 Cooked Canon
7 Lefts
20 Cracked Vans

Req - 719 blank old pkg blank
7 hours mixed oven 354 Van

1060 Transfd 67 OK
159 Cooked Canon
141 Lefts
49 Cracked Van

354 Van 848 blank old pkg
600 Lbs pressure oven pkg 9 3/4

1393 Transfd 78% OK
186 Cooked Canon
56 Lefts
54 Cracked Van

719 ad blank oven 9 3/4 mixed
354 Var

1010 Transfd — 52% OK
279 Cooked Centers
128 Lifts
69 Cracked Vars

~~853 + 854 to Reg Var but 853 was~~
~~Kept 15 hours~~

Results of Proofing
~~75~~ 83 provided —
75 OK
Cracked at Edge feed line 3
Cracked in Illusia 1
Red Centers 3
Bubble hole in feed line 1

~~[illegible]~~

Reg Var but Kept —
Hoffman Vis 3 min 15 sec at 70°
at 12.45 pm 24th June LO set up
steams at 1.30 pm Vis was
4 min 28 sec This Vis was immediately
taken when it got up steams —
Stood in Cooling Room not
on ice 15 hours —
Vis at End of 15 hours at 70
deg LO was 23 min 35 seconds
Results —
Oven 8 — 7 hours — 842 blank

100 Transfd — 47 OK
356 Lot Var 60 Lifts
1 Rind out
1 Cracked Var —

Var 854
Dup of above but no Para — raised
Paula to 6% Hoffman Vis 3.05 at 70°
at 3.30 pm 24 June — set up steams at 4 pm
at 70 — 3.11 sec — 15 hours afterwards
Vis at 70 was 3.12 sec —
357 Lot Var 100 Transfd — 83% good all uneven
5 Cooked Centers plates —
12 Lifts —

Transfer

Even Var plates		Uneven
Cooked	8	14.8
Lifts	3	9
Ckd V	9.5	12.5

Prints -

Poor Prints	12	10.5
Cracked	3.75	2

This shows uneven Varnish is bad —
Here Planning scheme is OK
Stop at 1 think —

Moore Expts - 854 Var - Uneven plates -
842 new blanks Oven 8 7 hrs
100 Trans - 83 OK 5
Cracked Coatings 5
Lifts 12
Prints 83 printed -
6 knocks 5 white specks 2 Rough surface 1 cut
1 Cracked 4 poor prints

Uneven plates - 854 Var Oven 8 7 hrs
100 Transfer 84 OK - 4 Cracked Coats 6 Lifts
2 Bubbles 4 Cracked Var
Prints - 78 OK 1 scratch 1 cracked 4 poor prints

Reg Plates 853 - What is it + the 15 hours slung
842 blanks Oven 8 7 hrs 23 min Viscosity
100 Transfer 47 OK 51 lifts 1 Pull out
1 Cracked Var
Prints 36 OK 3 cracked 4 poor prints -
4 have printed on blank - Moore the
the brush you was on showing Table.

Evidently High viscosity is
Very bad — Para which continues
forces Var + increase viscosity must
be abandoned to get good results

Steam Dried powder ~~85~~ 2007
oven 7 9/3/4

852 sp-blank old packing
145 transfd 114 OK
14 Cooked Centers 7 lefts 9 Cracked Vac
Prints 33 OK 15 knocks 6 Cracked.

Steam Dried powder 2007 oven 8 9/4

842 552 new packing

100 transfd 96 good 1 Cooked Center
1 left 1 Burnd 1 Cracked Vac
Prints 3 Knocks 2 Cracked
4 poor prints — 87 OK.

Reg powder - Steam Dried
1% Para in Varnish that is used
in the blank powder

118 Transferred 106 OK 89%

4 Cooked Centers
6 lefts
2 Cracked Vac

842 blank

Oven 3 9 3/4 hours
632 Reg Vac Lot 359 B 6/29/14

842 - blank Steam dried Vac
powder — 854 Vac no para 6% Prints

Transfd 100 — 91 OK
2 Cooked
4 lefts
3 Cracked Vac

Prints. 54 OK -
1 Cracked
7 poor prints — } 8 Discard

Knocks in Mould 17 —
Knocks 5

Hair pressed in blank 1
Molded Testers 5

27 To be reprocessed

Reg plates — Trimmer 9 3/4 oven

T = 842 black steam dried ~~60~~ = 57 ok 1 lift 2 mechanical

Print. 57 — 54 ok - 2 Knocks 1 poor print,

1% Pana

T 842 - 855 - 100 Transfd 97 ok 3 cracked wares 7 hour oven

Print 95 79 ok - 6 Knocks 1 Cracked 5 rough on fan 3 cracked

842 — Exp 1

T - 855 - 100 Transfd 97 ok 2 cracked 1 pull out

P - 97 - 84 ok - 7 Knocks 2 hair in 4 cracked 7 hour oven

842 — 855.

T = 100 - 98 ok - 1 Cracked Cut 1 Lift. 7 hour oven

P 98 - 92 ok 3 Knox 1 cracked

Exp 1

T 842 - 852 - 100 Transfd - 98 ok - 2 pull out

P 98 - ok 80 — 6 Knox 4 white spot 1 hole 3 bad Cutter

2 Cracked 2 Mould test. 9 3/4 oven

Exp 1

T - 842 - 852 9/34 oven - 100 - 88 ok 2 cracked Cutter

1 lift. 4 pull out 5 Cracked Var - 632 - 367 Var

P - 88 - 81 ok - 6 Knox 1 white spot.

Exp 1 Reg plates

T - 842 - 857 = 9 3/4 oven 100 - 90 ok 1 lift 8 - broke pull out

P 90 - 71 ok 2 Knox 1 scratched 3 Cracked 4 poor pt

Exp 1

T - 842 - 857 - 9 3/4 - 100 - 91 ok 3 Cracked 1 lift

2 pull outs 1 Cracked corner 2 Ckd Var 632 369

P - 91 - 77 ok 6 white spots - 3 bad Cutter 4 Ckd

1 poor pt -

Expt 6 -

T = 842 - 852 7 hour Expt 6 - 100 - 96 ok

Lift, 2. Cracked V 2 -

P = 96 - 81 ok 5 Knox 5 mould 4 unmelted

Reg plates

T 842 - 857 9 3/4 - 100 - 95 ok 2 Cracked

1 pull out 2 Cracked corner

P = 95 — 88 ok 1 white spot 3 hair in 3 Cracked

Exp 1 uneven plates -

T 842 - 852 9 3/4 — 101 - 88 ok - 1 Cracked

3 lifts 5 pull outs 1 ckd corner 2 Ckd Var

1 mechanical

P = 88 - 78 ok 1 hole 1 white spot 6 mould dry

2 to mould inner -

all new 8+2 blanket

	OK Transfer	OK Print	Ok for Reprint	OK 50% Reprint		
855 1% Porcam blanket	97	79	12	85		all E1 hand pulls
	97	84	9	89		Steam Dried 1% Porcam
	98	92	3	94		
	97.3	85		89.3		
852 Spt 7	98	80	6	83		Steam Dried Redwood Peel Vat
	88	81	6	84		
	96	81	14	88		
Uneven Pile	84	78	8	82		
	92.5	80		84.2		
857.	90	71	3	73		Steam Dried 185 mild oiling 205° Redwood peel Vat
	91	77	0	77		
	95	88	3	89		
	92	79		79.6		

Printing

	Cracked	Cook C	Poor P	White Sp
855	3			
	4			
	1			
852	2	3		4
				1
				1
857	3		4	
	4	3		6
	3			1

Transferring

	Ckdwarp	Cracked	Pullout	Cookedout	Left	
855	3	—	—	—	—	300
"	—	1	1	1	1	
"	—	—	1	2		
	3	1	2	3	1	
852	—	—	2	—	—	400
	—	2	4	—	1	
	—	—	—	2	2	
	1	2	5	1	3	
	1	4	11	3	6	
857	—	—	8	—	1	300
	1	2	2	3	1	
	2	—	1	2	—	
	3	2	11	5	2	

100 Lot Ends

		T		Pt		RP	
9 Lot 248	842 blank	93		80		—	
9 3/4 249	"	93		78		15	
" 250	"	98		66		23	
" 251		94		88		3	
" 252	"	96		62		24	
" 253	"	93		83		7	
" 254	"	95		90		5	
" 255	"	96		76		17	
7 256	"	96	854	89	712	1	
9 3/4 257	"	87		70		15	
" 258	"	88		70		14	
" 259	"	89		68*		4	12 Lot
" 260	"	93		71		4	
" 261	" 97	88		74		11	
" 262	"	91		84		6	
" 263	"	93		84		3	
" 264		98		77		3	
" 265		96		87		1	
" 266		97	920	87	772	4	
" 267		100		98		1	
" 268		100		79		12	
" 269		94		81		6	
7 270		88		68		0	
9 3/4 271		88		74		1	
" 272		97		82		2	
7 273		87		71		4	
9 3/4 275		91		87		3	
7 276		79	984	61	802	6	
7 278		73		43		50	
9 3/4 279							

Transfers 91.93% good

Prints 76.2.

If 53% of Reprints is attained, then Prints 80% good to Shipping Dept,

Lifts	80
Pullouts	18
Cracked Wave	19
Cracked Normal	70
Mechanical	13
Birds	15
Cracked Ceiling	26

papers all dated 7/9/14

67 lots of 100 Each

averaged 94.2 good Transfers

& without any allowed for Reprint

gives 75.8 good prints &

passed as OK for shipping

by Testers —

There was 391 reprintable discard

assuming 50% good, or 196 –

this gives 78.8 Good

Prints,

Evidently 75% is

good Staff average

Just tried Experiment on Ortho Cresol for black Varnish with 6% 6/4 — Was looking

Transfer

OK 9
Cond 2
Bad 1
12

Prints
All printed (9) OK

This shows we can used Ortho Cresol with 7 to 8% 6/4 in place of Phenol —

Also used mixture of
2/3 phenol resin 5% 6/4
1/3 Common Resin —
Transfers with Reg 632 Var having pores in —

100 —
92 OK —

Dup but with 854 Var which is Reg Var with Para left out & Resin increased from 4 to 6% 2/3 phenol resin 1/3 Resin

100 Transferred
75 OK

Dup of the 854 Var but 1/2 Resin 1/2 phenol resin
100 Transferred
57 OK —

Para seems necessary to get good bonding

July 2 1914 —

Experiments with Metapara Cresol from Bayley Chem Co

872 Varnish

1200 MP Crude cresol SR
34 gm phenol
94.3 " 6/4 —
6% Pentin (6 mod with steam)

+ 873 Varnish —
Cold Reg Except used MP Cresol
& Paraphenylenediamine —

Flowed + baked = all cracked bad, Flow pan too much
6/4 Condensed too much
Wants lower 6/4 —
leaves flecks & very brittle stuff —

Tried MP Cresol again, 6 7 8 9 + 10% 6/4 — with + without Para, ~~without~~ —

225 Fahr in oven dont condense enough — When transferred 15 min hot at 100 C by steam pressure they were hard nearly as hard as reg —

I think MP Cresol can be made to work on Veneer — it works OK in powder —

Ortho Cresol with 6 Pentin 2 para + Reg amount 6/4 dont harden in oven & even when transferred it melts + runs all away
There may be a mistake in 6/4 but Hoffman always has put it in —

We find that Ortho Cresol (German) dont hardend with 6/4 in transforming, melts & runs off -

Meta Para Cresol from Bay way Chem Co, Condenses to a Resin

But it acts Curious —

35% Formaldehyde in alcohol makes a resin — & that is soft & then is dehydrated & it works good in powder blanks — But 40 45 & 50 % Formaldehyde dont give any greater yield 75% but goes off — I Heat only 35% or perhaps 30% Formaldehyde Cuts used —

40 of MP gives 30 of Resin — using 35% Formaldehyde

Costing 10 cents lb for resin even if the Excess Coming over in dehydrater isnt any good

Varnish for plates —

With 4% Penta & $\frac{1}{10}$% Para the bubbles are too much

With 6% Penta & $\frac{1}{10}$% Para There is very few bubbles —

~~with 20~~

With 5% Penta & 1% Para

It makes a fine flowing Varnish but yet, dont thicken but little in 20 hours — so OK using 7.9% 6/4 —

I now make new standard Varnish —

6% Penta

8% Para — 8/10th%

8% 6/4 —

Benzolsulfonic acid. Neutralize by
Phenolate. Gives free phenol —
Benzene & free SO_2 —
Phenol distillation off — then Concentrated
& frozen. Centrifuge and MgO &
Centrifuge — 60 cents Liquor
Na_2SO_4

B Sulfuric acid — neutralizes — phenol & tongue Sulf Na — SO_2 preserves

2000 —

2000
41
2000
8000
8200
23)
35
58 (230 (41
220
8

12.

820 lbs

Benzenesulfonic acid —

Sulphite Na —

Benzene Sulfonate Na +
SO_2

Na OH.

23 —
18
184
184
4

23
18
41

35
41
6
7 (410 (34
8
30
3
108 —

1/2 =
5

65 C 13
50 C 10
30 , 6 —
25 = 5 —

5 | 65 (
13

44
12
8
44 8
52 300
12 | 360 | 30 50
36
84
84
16, ton of soda

0

3.85

2.6 —

350

1450 —

421
370 —
20
220
220
0

145
7 —
7.24 —

213
16
278
13 8
2 0 0
34 7 2 8
35

14
30
44

1450 | 3828 (
2900
928
870
58

2.65 —